

1 WHAT IS CLAIMED IS:

2 1. An arrangement of a tool insertable into the mouth of a horse for the  
3 care and maintenance of teeth while providing protection of soft tissue  
4 within the mouth of the horse and comprising in combination:  
5 an electric rotary motor having a means to hold said tool along the axis  
6 of rotation of said motor, said tool having a tooth cutting surface of a  
7 preselected size and shape;  
8 a shaft having one end mounted to said cutting surface and the other  
9 end attachable to said motor holding means thereby supplying  
10 rotational motion to said tool;  
11 a shaft support means through which said shaft may be removably  
12 inserted;  
13 a hand piece having a channel through which said shaft support means  
14 is removably insertable; and,  
15 a cutting surface guard fabricated as a portion of said hand piece and  
16 shaped to be in encircling relation about a selected portion of said  
17 cutting surface thereby exposing only a portion of said cutting  
18 surface under the condition of said shaft support means, having said  
19 shaft inserted therein, is mounted within said shaft support channel  
20 of said hand piece and said shaft engaged within said holding means  
21 thereby allowing a user of the arrangement to guide said hand piece  
22 containing the partially guarded tool into the mouth of the horse to  
23 separate said soft tissue from a preselected portion of a tooth with  
24 said cutting surface guard and position the unguarded portion of  
25 said cutting surface against a tooth to remove a selection portion of  
26 said tooth by means of said tool in rotary motion.

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28 2 (First Amended). An arrangement of a tool insertable into the mouth  
29 of a horse for the care and maintenance of teeth while providing  
30 protection of soft tissue within the mouth of the horse and comprising  
31 in combination:

1 an electric rotary motor having a means to hold said tool along the axis  
2 of rotation of said motor, said tool having a tooth cutting surface of a  
3 preselected size and shape;  
4 a shaft having one end mounted to said cutting surface and the other  
5 end attachable to said motor holding means thereby supplying  
6 rotational motion to said tool;  
7 a shaft support means through which said shaft may be removably  
8 inserted, said shaft support means further comprises a bearing  
9 mounted at a preselected position within said shaft support means  
10 and a bearing seal mounted at a position between said bearing and  
11 said cutting surface through which said shaft may be inserted and  
12 supported for rotary motion without binding;  
13 a hand piece having a channel through which said shaft support means  
14 is removably insertable; and,  
15 a cutting surface guard fabricated as a portion of said hand piece and  
16 shaped to be in encircling relation about a selected portion of said  
17 cutting surface thereby exposing only a portion of said cutting  
18 surface under the condition of said shaft support means, having said  
19 shaft inserted therein, is mounted within said shaft support channel  
20 of said hand piece and said shaft engaged within said holding means  
21 thereby allowing a user of the arrangement to guide said hand piece  
22 containing the partially guarded tool into the mouth of the horse to  
23 separate said soft tissue from a preselected portion of a tooth with  
24 said cutting surface guard and position the unguarded portion of  
25 said cutting surface against a tooth to remove a selection portion of  
26 said tooth by means of said tool in rotary motion.

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28 3. The arrangement defined in claim 2 (First amended) further  
29 comprising a brass sleeve mountable around said shaft under the  
30 condition of said shaft being inserted through said bearing and  
31 bearing seal into said shaft support means, said brass sleeve

1 providing separation between said shaft and said shaft support  
2 means.

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4 4. The arrangement defined in claim 1 further comprising a flexible  
5 shaft having one end adaptively mountable to said motor thereby  
6 supplying rotational motion to said flexible shaft and the other end  
7 having a means to hold said tool along the axis of rotation of the  
8 flexible shaft thereby separating said motor from said tool so that  
9 said motor may be supported at a position remote from said tool.

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11 5. The arrangement defined in claim 1 further comprising  
12 preselected sized and shaped extended guards mountable to said  
13 cutting surface guard to provide additional separation between  
14 said cutting surface and said soft tissue within the mouth of the  
15 horse.

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17 6. The arrangement defined in claim 1 wherein said hand piece  
18 further comprises an orifice formed near said cutting surface and a  
19 second channel one end in communication with said orifice, the  
20 other end adapted to be removably attachable to a vacuum source  
21 whereby the dust and debris created by the removal of a selected  
22 portion of a tooth may first enter said orifice and then said second  
23 channel to be sucked out of the mouth of the horse and deposited  
24 into said vacuum source.

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26 7. (First amended) The arrangement in claim 2 (First Amended)  
27 wherein said shaft support means further comprises gearing  
28 means mounted within said shaft support means and in  
29 communication with said shaft to change the rotational motion of  
30 said shaft attached to said motor holding means into reciprocating

1 motion which may be applied to said cutting surface mounted on  
2 said shaft remote from said gearing means.  
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4 8. (First amended) The arrangement in claim 2 (First amended)  
5 wherein said shaft support means further comprises gearing  
6 means mounted within said shaft support means and in  
7 communication with said shaft to change the profile of the shaft by  
8 a preselected angle thereby increasing the range of placement of  
9 said cutting surface of said tool.  
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11 9. The arrangement in claim 4 wherein said adaptive mounting of  
12 said flexible shaft is to a motor owned by the user.  
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14 10. The arrangement in claim 4 wherein said means to hold said tool  
15 is a handle owned by the user, said flexible shaft having means to  
16 adaptively mount said handle on the end of said flexible shaft  
17 under the condition of said shaft mounted within said handle.  
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19 11. The arrangement in claim 4 further comprising a clutch mounted  
20 with one end in communication with said motor and another end  
21 remote from said motor in communicated with said flexible shaft  
22 thereby providing interruptible transmission of motion from said  
23 motor to said cutting surface in communication with said flexible  
24 shaft.  
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26 12. (First Amended) An arrangement of a tool insertable into the  
27 mouth of a horse for the care and maintenance of teeth while  
28 providing protection of soft tissue within the mouth of the horse  
29 and comprising in combination:

1 an electric rotary motor having a means to hold said tool along the axis  
2 of rotation of said motor, said tool having a tooth cutting surface of a  
3 preselected size and shape;  
4 a shaft having one end mounted to said cutting surface and the other  
5 end attachable to said motor holding means thereby supplying  
6 rotational motion to said tool;  
7 a shaft support means through which said shaft may be removably  
8 inserted;  
9 a hand piece having a channel through which said shaft support means  
10 is removably insertable; and,  
11 a cutting surface guard fabricated as a portion of said hand piece and  
12 shaped to be in encircling relation about a selected portion of said  
13 cutting surface thereby exposing only a portion of said cutting  
14 surface under the condition of said shaft support means, having said  
15 shaft inserted therein, is mounted within said shaft support channel  
16 of said hand piece and said shaft engaged within said holding means  
17 thereby allowing a user of the arrangement to guide said hand piece  
18 containing the partially guarded tool into the mouth of the horse to  
19 separate said soft tissue from a preselected portion of a tooth with  
20 said cutting surface guard and position the unguarded portion of  
21 said cutting surface against a tooth to remove a selection portion of  
22 said tooth by means of said tool in rotary motion;  
23 a flexible shaft having one end adaptively mountable to said motor  
24 thereby supplying rotational motion to said flexible shaft and the  
25 other end having a means to hold said tool along the axis of rotation  
26 of the flexible shaft thereby separating said motor from said tool so  
27 that said motor may be supported at a position remote from said  
28 tool; and,  
29 a clutch mounted with one end in communication with said motor and  
30 another end remote from said motor in communicated with said  
31 flexible shaft thereby providing interruptible transmission of motion

1 from said motor to said cutting surface in communication with said  
2 flexible shaft, wherein said clutch further comprises means to adjust  
3 the threshold of torque at which said motion is interrupted.

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5 13 (First amended) The arrangement in claim 12 (First amended)  
6 further comprising a clutch housing mountable to said motor  
7 thereby enclosing said clutch and having a mounting to retain one  
8 end of said flexible shaft in communication with said clutch, said  
9 clutch housing having an means for access by the user to the  
10 means to adjust the torque.

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12 14. The arrangement in claim 1 wherein said hand piece and guard  
13 are fabricated from aluminum.

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15 15. The arrangement in claim 14 wherein the exposed surfaces of said  
16 aluminum are anodized.

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18 16. An electric motor powered arrangement insertable into the mouth  
19 of a horse for the care and maintenance of equine teeth while  
20 providing protection of soft tissue within the mouth of the horse  
21 and comprising in combination:  
22 a tool having a tooth material removal surface;  
23 a shaft having a first end mounted to said tool and a second end  
24 attachable to said electric motor whereby said tooth material  
25 removal surface has a powered motion;  
26 a hand piece fabricated with an internal shaft channel;  
27 a bearing support sleeve;  
28 at least one bearing mounted within said support sleeve at a  
29 preselected position whereby said bearing accepts the insertion of  
30 said shaft through said bearing thereby exposing the end of said  
31 shaft remote from said tooth removal surface, said bearing support

1 sleeve mounted with said internal shaft channel whereby said  
2 exposed end of said shaft is attachable to said electric motor, said  
3 bearing providing support for said shaft under the condition of said  
4 tooth material removal surface tool being guided into contact with a  
5 preselected tooth and pressed against the tooth until a preselected  
6 portion of the tooth is removed while said tooth material removal  
7 surface is under powered motion;

8 a protective shield fabricated as part of said hand piece at a preselected  
9 position and shaped to expose a preselected portion of said tooth  
10 material removal surface of said tool retained within said hand piece,  
11 said exposed portion guided into contact with a preselected portion  
12 of the tooth whereby the remaining non-exposed surface is separated  
13 from other portions of the horses mouth including said soft tissue;  
14 and,

15 a sleeve mountable over said shaft within said shaft hand piece  
16 whereby said sleeve provides additional bearing means between said  
17 shaft and said hand piece without binding.

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19 17.The arrangement defined in claim 16 wherein said bearing support  
20 sleeve means further comprises a bearing mounted at a  
21 preselected position within said bearing support sleeve and a  
22 bearing seal mounted at a position between said bearing and said  
23 cutting surface through which said shaft may be inserted and  
24 supported for rotary motion without binding.

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26 18.The arrangement defined in claim 16 further comprising a flexible  
27 shaft having one end adaptively mountable to said motor thereby  
28 supplying rotational motion to said flexible shaft and the other end  
29 having a means to hold said tool along the axis of rotation of the  
30 flexible shaft thereby separating said motor from said tool so that  
31 said motor may be supported at a position remote from said tool.

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19. The arrangement defined in claim 16 further comprising  
preselected sized and shaped extended guards mountable to said  
cutting surface guard to provide additional separation between  
said cutting surface and said soft tissue within the mouth of the  
horse.

20. The arrangement defined in claim 19 wherein said extended guard  
further comprises an orifice formed near said cutting surface and a  
vacuum channel one end of which is in communication with said  
orifice, the other end of said vacuum channel adapted to be  
removably attachable to a vacuum source whereby the dust and  
debris created by the removal of a selected portion of a tooth may  
first enter said orifice and then said channel to be sucked out of  
the mouth of the horse and deposited into said vacuum source.

21. The arrangement in claim 16 wherein said bearing support sleeve  
further comprises gearing means mounted within said bearing  
support sleeve and in communication with said shaft to change the  
rotational motion of said shaft attached to said motor holding  
means into reciprocating motion which may be applied to said  
cutting surface mounted on said shaft remote from said gearing  
means.

22. The arrangement in claim 16 wherein said bearing support sleeve  
further comprises gearing means mounted within said bearing  
support sleeve and in communication with said shaft to change the  
profile of the shaft by a preselected angle thereby increasing the  
range of placement of said cutting surface of said tool.

1 23.The arrangement in claim 18 wherein said adaptive mounting of  
2 said flexible shaft is to a motor owned by the user.

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4 24.The arrangement in claim 18 wherein said means to hold said tool  
5 is a handle owned by the user, said flexible shaft having means to  
6 adaptively mount said handle on the end of said flexible shaft  
7 under the condition of said shaft mounted within said handle.

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9 25.The arrangement in claim 18 further comprising a clutch mounted  
10 with one end in communication with said motor and another end  
11 remote from said motor in communicated with said flexible shaft  
12 thereby providing interruptible transmission of motion from said  
13 motor to said cutting surface in communication with said flexible  
14 shaft.

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16 26.The arrangement in claim 25 wherein said clutch further  
17 comprises means to adjust the threshold of torque at which said  
18 motion is interrupted.

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20 27.The arrangement in claim 26 further comprising a clutch housing  
21 mountable to said motor thereby enclosing said clutch and having  
22 a mounting to retain one end of said flexible shaft in  
23 communication with said clutch, said clutch housing having an  
24 means for access by the user to the means to adjust the torque.

25  
26 28.The arrangement in claim 16 wherein said hand piece and guard  
27 are fabricated from aluminum.

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29 29. The arrangement in claim 28 wherein the exposed surfaces of said  
30 aluminum are anodized.